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F4W W46A W46B

(56) Documents cited  
GB 2207499 A GB 2195761 A GB 0399878 A  
GB 0284867 A

(58) Field of search  
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INT CL<sup>5</sup> F24C 3/00 7/00  
Online databases: WPI

(54) Solid fuel effect gas fires

(57) A fire back (18) for a solid fuel effect gas fire has an integrally formed support bed (19) for simulated solid fuel. The fireback may be moulded from a slurry of ceramic fibre.

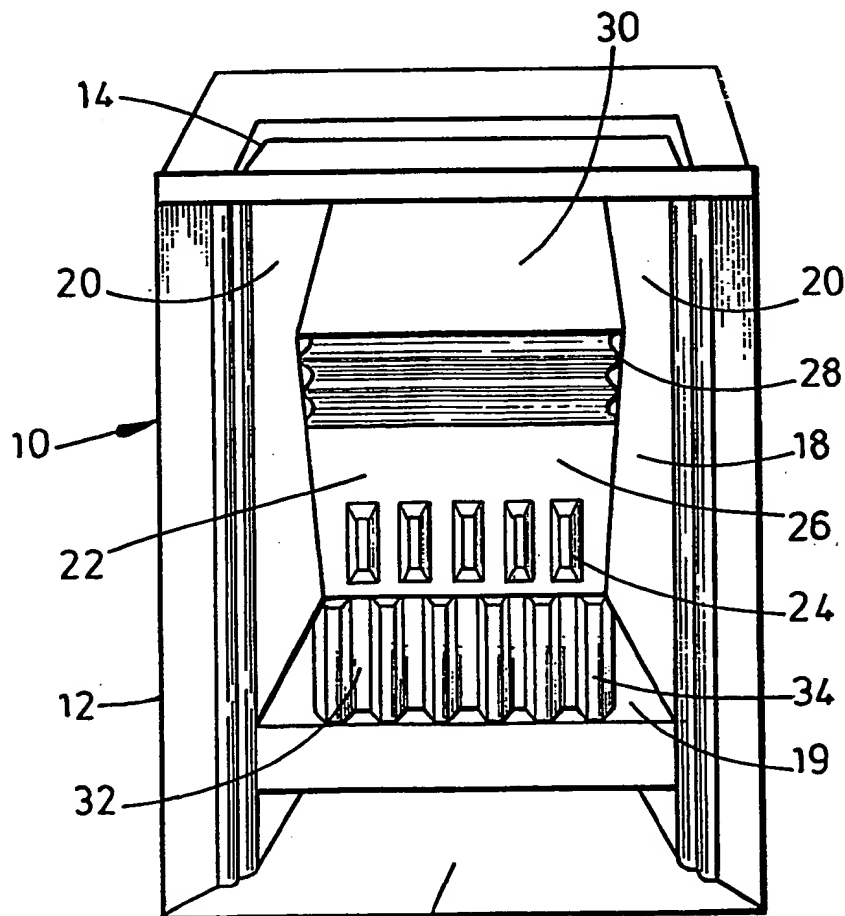


FIG 1

GB 2 257 783

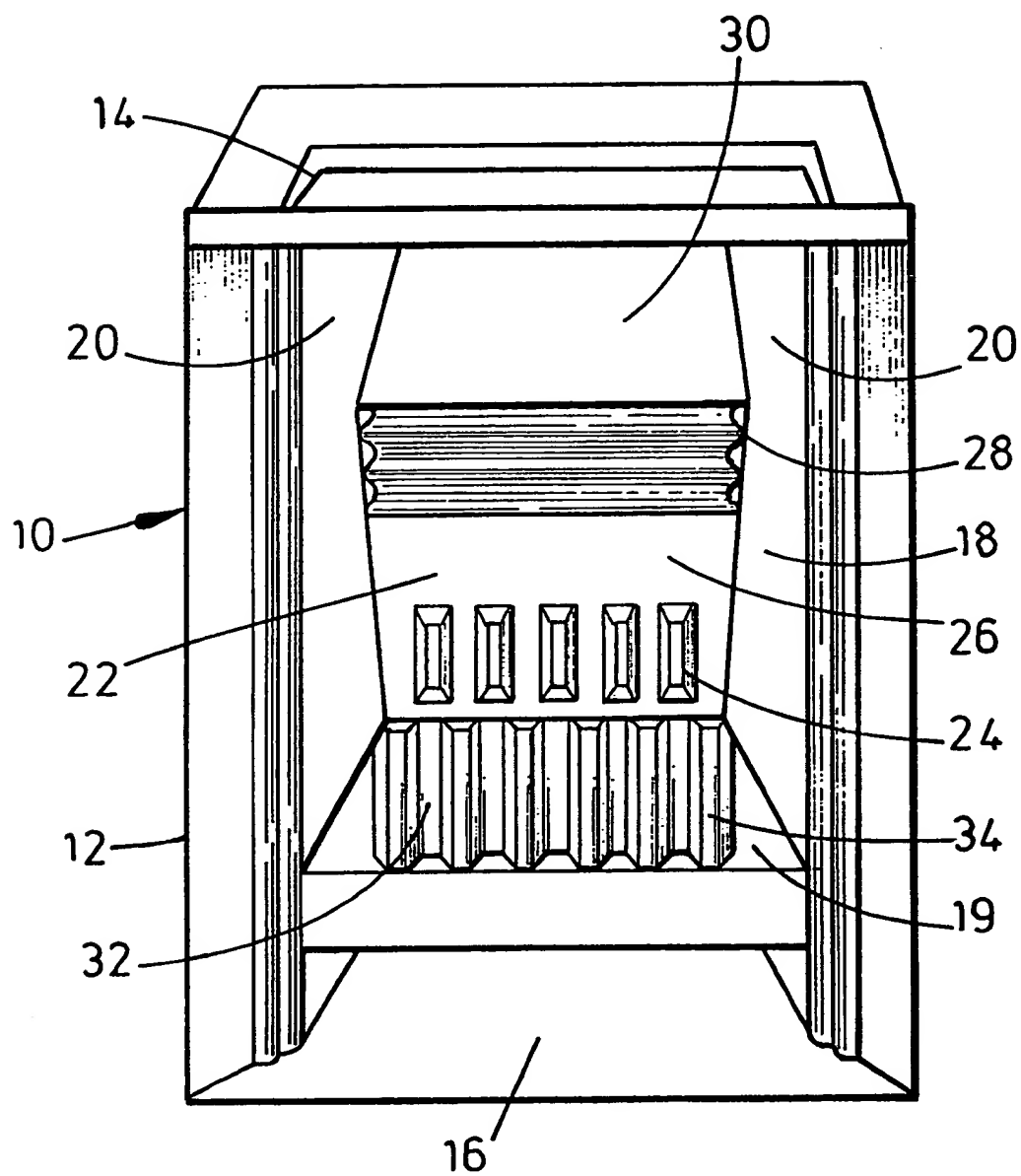


FIG. 1

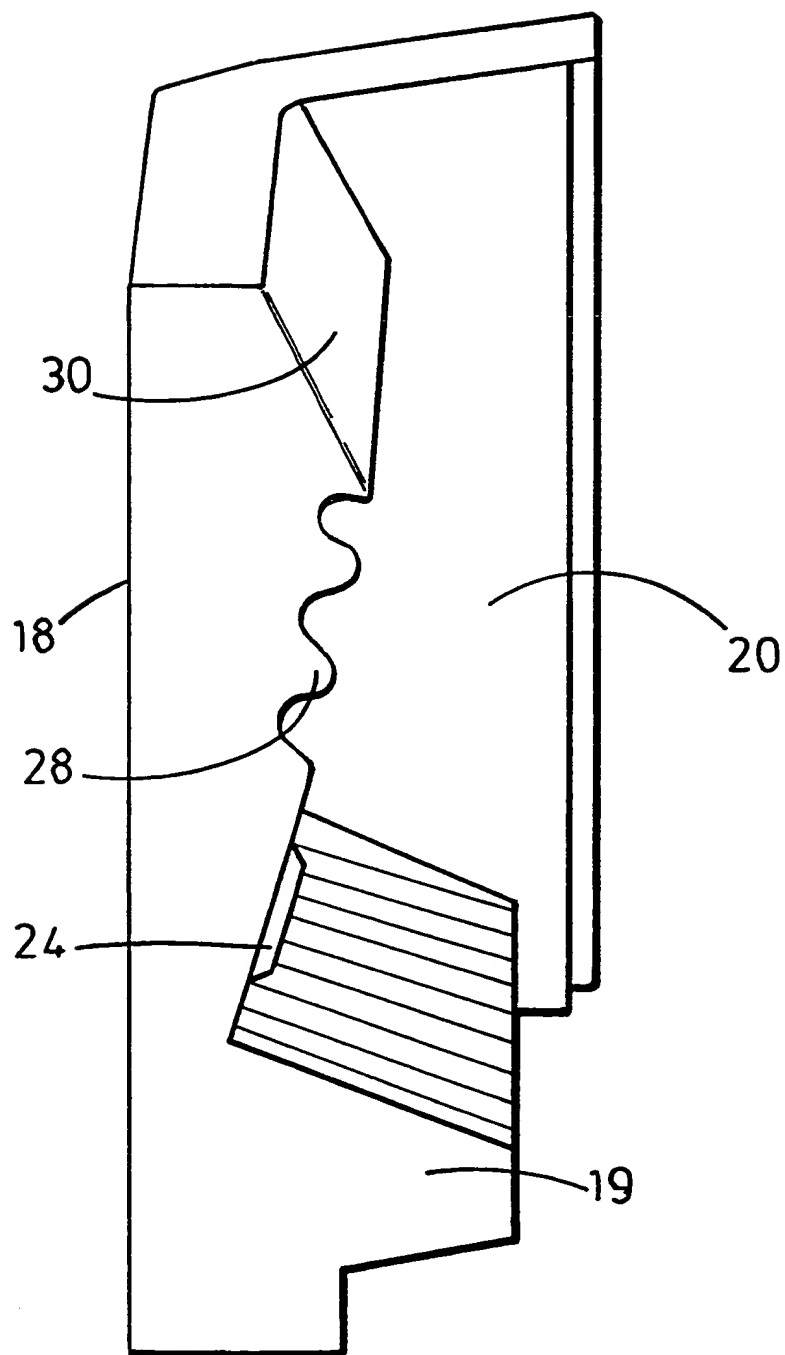


FIG. 2

Title: Improvements in and relating to solid fuel effect  
gas fires

## DESCRIPTION

This invention concerns solid fuel effect gas  
5 fires.

Solid fuel effect gas fires generally comprise a  
fire back, which may be made of ceramic fibre, a support  
for simulated solid fuel and a gas burner usually  
situated below and in front of the simulated fuel,  
10 whereby flames from the gas burner are drawn through the  
simulated fuel to give heat the simulated fuel so that  
it glows and to give the effect of flames coming from  
the simulated fuel.

An object of this invention is to provide an  
15 improved fire back for a solid fuel effect fire.

According to the invention there is provided a  
fire back for a solid fuel effect fire that has  
integrally formed therewith a support bed for simulated  
solid fuel, such as simulated coal or logs.

20 Thus, the present invention proposes a one-piece  
fire back and fuel support bed unit which is preferably  
formed of ceramic fibre. The unit may be conveniently  
moulded in ceramic fibre, typically from an aqueous  
slurry of ceramic fibre into which an appropriately

shaped mould is dipped. The preferred mould is perforated to allow excess water to drain off and vacuum may be applied. The moulded unit is then separated from the mould and dried with or without heating. The slurry  
5 itself may contain moulding additives such as starch and silica as well as dye or pigment to give a desired colour to the unit.

The fire back and support bed unit preferably has sides and a back that is shaped to promote air flow  
10 upwards as well as heat radiation outwards. The back preferably has a lower forwardly inclined portion and an upper rearwardly inclined portion which is a conventional arrangement. The lower portion may have its upper part transversely ribbed and spaced vertical  
15 upstanding ribs are preferably provided on its lower part, the latter providing air guide passages therebetween.

The support bed is preferably inclined upwardly and rearwardly and is preferably formed with upstanding  
20 ribs to provide rearwardly directing air guides. The air guides of the fire back and of the support bed may improve heat output of a gas fire and hence may improve the appearance of the fire in use.

The one-piece unit will normally be fitted into  
25 an open fronted outer casing say of steel to the base of which will normally be fitted the gas burner and

controls, whereby flames from the burner will be drawn upwards and through the simulated fuel on the support bed therefor.

This invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:-

Figure 1 is a front view of a solid fuel effect gas fire; and

Figure 2 is a sectional side view of the fire of Figure 1 without its casing.

Referring to the accompanying drawings, a solid fuel effect gas fire 10 has a steel outer open fronted casing 12. The casing 12 has a vented upper side 14 and its base 16 will in use house a gas burner (not shown). Within the casing 12 is a one-piece fire back 18 and simulated fuel support bed 19. The fire back 18 has sides 20, a lower forwardly inclined back section 22 having a series of raised vertical ribs 24 to provide air passages therebetween, a planar section 26 and a transversely ribbed section 28, and a rearwardly inclined planar upper section 30. The fuel support bed 19 slopes upwardly towards the rear of the fire and has a series of raised ribs 32 forming air passageways 34 therebetween. The transversely ribbed section 28 may alternatively be planar.

The fire back and support bed are moulded in one-

piece from ceramic fibre by dipping an appropriately shaped perforated mould into an aqueous slurry of ceramic fibre also containing silica, starch and dye. The mould is withdrawn from the slurry to drain off water with the aid of vacuum and the resultant moulding separated from the mould and allowed to dry.

The provision of a one-piece fire back and simulated fuel support bed unit has several advantages over the hitherto separate provision of fire back and support bed. Because the fire back and support bed are in one-piece, there are no joints through which heat loss may occur. Furthermore, the air guides which may be moulded into the unit can improve heat output and the appearance of the fire in use.

15 The one-piece unit requires less packaging and may be easier to transport.

Installation of a fire incorporating the one-piece unit will be easier, as the relative positions of the fire back, support base and outer casing are fixed. In addition, the gas burner can be supplied already fitted to the base of the outer casing, so further simplifying the installation procedure.

## CLAIMS

1. A fire back for a solid fuel effect fire that has integrally formed therewith a support bed for simulated solid fuel.
- 5 2. A fire back as claimed in claim 1 having sides and a back that is shaped to promote air flow upwards as well as heat radiation outwards.
3. A fire back as claimed in claim 2, wherein the back has a lower forwardly inclined portion and an upper  
10 rearwardly inclined portion.
4. A fire back as claimed in claim 3, wherein the lower portion has its upper part transversely ribbed.
5. A fire back as claimed in claim 3 or 4, wherein the lower portion has spaced vertical upstanding ribs  
15 provided on its lower part.
6. A fire back as claimed in any one of claims 1 to 5, wherein the support bed is inclined upwardly and rearwardly.
7. A fire back as claimed in any one of claims 1 to  
20 6, wherein the support bed has upstanding ribs to provide rearwardly directing air guides.
8. A fire back as claimed in any one of claims 1 to 7 made of ceramic fibre.
9. A fire back as claimed in claim 8 made by  
25 moulding an aqueous slurry of ceramic fibre.



10. A fire back as claimed in claim 9 wherein the fire back is formed in a perforated mould to which vacuum is applied.

5 11. A fire back as claimed in any one of claims 1 to 10 fitted into an open fronted casing.

12. A fire back as claimed in claim 11, wherein the casing is of steel.

10 13. A fire back substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number

GB 9215282.6

**Relevant Technical fields**

(i) UK Cl (Edition K ) F4W

(ii) Int Cl (Edition 5 ) F24C 3/00, 7/00

**Databases (see over)**

(i) UK Patent Office

(ii) ONLINE DATABASES: WPI

Search Examiner

A N BENNETT

Date of Search

1 SEPTEMBER 1992

Documents considered relevant following a search in respect of claims

1-12

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2207499 A (GLYNWED) See Figure 2	1
Y	GB 2195761 A (BEAUMONT) See page 2, lines 40-59	8-10
X;Y	GB 0399878 (UNITED GAS) Whole document, but especially page 3, lines 93-96	X: 1-3, 5-7, 11, 12  Y: 8-10
X	GB 0284867 (S METROP GAS) See Figure 2	1

Category	Identity of document and relevant passages	Relevance to claim(s)

**Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

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